

## Additional File 7-Functional Clusters of RBM8a downstream genes

Function	Number of genes	p value	q value
Regulation of system processes	60	1.9 x 10 <sup>-9</sup>	6.9 x 10 <sup>-6</sup>
Neuron differentiation	75	4.9 x 10 <sup>-9</sup>	9.2 x 10 <sup>-6</sup>
Regulation of cell proliferation	114	9.4 x 10 <sup>-9</sup>	1.2 x 10 <sup>-5</sup>
Extracellular structure organization	38	2.0 x 10 <sup>-8</sup>	1.8 x 10 <sup>-5</sup>
Biological adhesion	101	9.8 x 10 <sup>-8</sup>	7.3 x 10 <sup>-5</sup>
Skeletal system development	56	2.4 x 10 <sup>-7</sup>	1.3 x 10 <sup>-4</sup>
Cell motion	74	3.3 x 10 <sup>-7</sup>	1.5 x 10 <sup>-4</sup>
Cell-cell signaling	88	3.4 x 10 <sup>-7</sup>	1.4 x 10 <sup>-4</sup>
Localization of the cell	53	9.0 x 10 <sup>-7</sup>	3.1 x 10 <sup>-4</sup>
Transmission of nerve impulse	57	2.2 x 10 <sup>-6</sup>	7.0 x 10 <sup>-4</sup>
Regulation of synaptic transmission	30	2.6 x 10 <sup>-6</sup>	7.0 x 10 <sup>-4</sup>
Regulation of cell development	39	3.0 x 10 <sup>-6</sup>	9.0 x 10 <sup>-4</sup>
Regulation of neurological system process	32	3.7 x 10 <sup>-6</sup>	9.1 x 10 <sup>-4</sup>
Neuron development	55	3.9 x 10 <sup>-6</sup>	9.0 x 10 <sup>-4</sup>
Regulation of neurogenesis	33	7.7 x 10 <sup>-6</sup>	1.7 x 10 <sup>-3</sup>
Synaptic transmission	49	9.8 x 10 <sup>-6</sup>	2.0 x 10 <sup>-3</sup>
Positive regulation of cell proliferation	62	1.2 x 10 <sup>-5</sup>	2.4 x 10 <sup>-3</sup>
Kidney development	23	1.2 x 10 <sup>-5</sup>	2.3 x 10 <sup>-3</sup>
ECM organization	24	1.5 x 10 <sup>-5</sup>	2.5 x 10 <sup>-3</sup>
Cell morphogenesis-differentiation	42	1.5 x 10 <sup>-5</sup>	2.4 x 10 <sup>-3</sup>
Response to inorganic substance	37	1.9 x 10 <sup>-5</sup>	2.8 x 10 <sup>-3</sup>
Response to corticosteroid stimulus	21	2.0 x 10 <sup>-5</sup>	2.9 x 10 <sup>-3</sup>
Enzyme linked receptor protein pathway	53	2.2 x 10 <sup>-5</sup>	3.1 x 10 <sup>-3</sup>
Neuron projected development	43	2.2 x 10 <sup>-5</sup>	3.0 x 10 <sup>-3</sup>
Forebrain development	30	2.5 x 10 <sup>-5</sup>	3.2 x 10 <sup>-3</sup>
Regulation of nervous system development	35	2.7 x 10 <sup>-5</sup>	3.3 x 10 <sup>-3</sup>
Urogenital system development	24	3.8 x 10 <sup>-5</sup>	4.6 x 10 <sup>-3</sup>
Vasculature development	41	6.7 x 10 <sup>-5</sup>	7.8 x 10 <sup>-3</sup>
Axogenesis	34	7.2 x 10 <sup>-5</sup>	7.9 x 10 <sup>-3</sup>
Blood vessel development	40	8.5 x 10 <sup>-5</sup>	9.0 x 10 <sup>-3</sup>
Neuron projection morphogenesis	36	1.0 x 10 <sup>-4</sup>	1.0 x 10 <sup>-2</sup>
Response to oxygen levels	27	1.2 x 10 <sup>-4</sup>	1.2 x 10 <sup>-2</sup>
Regulation of locomotion	33	1.5 x 10 <sup>-4</sup>	1.4 x 10 <sup>-2</sup>
Diencephalon development	12	1.6 x 10 <sup>-4</sup>	1.5 x 10 <sup>-2</sup>
Sensory organ development	37	2.0 x 10 <sup>-4</sup>	1.8 x 10 <sup>-2</sup>
Response to glucocorticoids stimulus	18	2.2 x 10 <sup>-4</sup>	1.9 x 10 <sup>-2</sup>
Behavior	63	2.6 x 10 <sup>-4</sup>	2.1 x 10 <sup>-2</sup>
receptor tyrosine kinase pathway	36	2.8 x 10 <sup>-4</sup>	2.3 x 10 <sup>-2</sup>

Response to hypoxia	25	$3.3 \times 10^{-4}$	$2.6 \times 10^{-2}$
Response to steroid hormone stimulus	32	$3.3 \times 10^{-4}$	$2.6 \times 10^{-2}$
Morphogenesis of branching structure	17	$3.7 \times 10^{-4}$	$2.8 \times 10^{-2}$
Regulation of cell migration	29	$4.2 \times 10^{-4}$	$3.0 \times 10^{-2}$
Cell part morphogenesis	39	$4.4 \times 10^{-4}$	$3.1 \times 10^{-2}$
Regulation of cell proliferation	50	$6.1 \times 10^{-4}$	$4.2 \times 10^{-2}$
Platelet derived growth factor pathway	8	$6.1 \times 10^{-4}$	$4.2 \times 10^{-2}$
Adult behavior	18	$7.5 \times 10^{-4}$	$5.0 \times 10^{-2}$
Regulation of synaptic plasticity	15	$7.5 \times 10^{-4}$	$4.9 \times 10^{-2}$